

Membrane Dryers

Because they are not powered by electricity, membrane dryers function safely in environments that must be explosion proof such as laboratories. Thanks to their quiet operation, membrane dryers can be used close to the workplace.

Pneumatech offers a range of 5 models for low flow applications.



PMD 1 - 7 - Membrane dryers

Features and Benefits

- ▶ Lowest total cost of ownership ensuring the highest air quality
- ▶ Compact size and flexible design allows different orientation per application
- ▶ Pneumatech's unique PMD dryer range ensures the lowest pressure drop and the lowest purge air use – providing real energy savings without compromise in production reliability and efficiency. Simple yet eco-friendly technology.
- ▶ Dry air in environments with strict safety or environmental requirements:
 - Low flow environments
 - Areas without electrical supply
 - Areas with explosion proof requirements
 - Noise sensitive areas
 - Corrosion sensitive areas
 - Pneumatech's membrane dryers perform where others won't:
 - Small spaces
 - Areas where flexible mounting is required
 - High vibration areas
 - Widely fluctuating temperatures
- ▶ State of the art fiber technology offering maximum efficiency
 - An engineers unique coating helps the PMD membrane dryers increase the separation efficiency between water vapour, oxygen and nitrogen
 - Extremely low air leakages and lowest purge loss in comparison with other standard membrane dryers
- ▶ Lowest pressure drop thanks to minimal air resistance
 - Simple and longitudinal design ensures steady compressed air flow eliminating unwanted twists and turns inside the housing resulting into minimal pressure drop and utmost efficiency
- ▶ Variants to suit your performance needs
- ▶ Equipped with our Ultimate filters for optimal performance
- ▶ Pneumatech's dryer range includes the P and N model range, each in 7 different sizes
- ▶ P range: Ensures a suppression of 32° C (55° F), giving at the reference conditions an outlet air pressure dew point of 3° C (40° F)
- ▶ N range: Lowers the inlet dew point with 55°C (100° F), giving a pressure dew point of -20°C (-5° F) at the reference conditions



Variants



Version with
purge control



Version without
purge control

Options



Electronic drain



Wall brackets

With its pre-filters, Pneumatech PMD dryers remove oil particles and moisture from compressed air in the most demanding conditions, at the lowest energy cost. Thanks to their special fiber technology, PMD dryers ensure the lowest pressure drop and purge air loss for the highest possible efficiency, saving you time and money.

From small spaces to environments with fluctuating ambient temperatures, PMD dryers can perform in a wide variety of harsh and critical conditions. PMD dryers also come with different types of membranes, allowing you to choose the exact air treatment you need and the dew point your operation requires. With an innovative design, PMD dryers provide the quality of air that will increase the reliability and energy efficiency of your production.

Technical specifications for PMD P																							
Product → Specification ↓	Unit	PMD 1P			PMD 2P			PMD 3P			PMD 4P			PMD 5P			PMD 6P			PMD 7P			
Pressure	bar	7	10	13	7	10	13	7	10	13	7	10	13	7	10	13	7	10	13	7	10	13	
	psi	102	145	190	102	145	190	102	145	190	102	145	190	102	145	190	102	145	190	102	145	190	
Max. inlet flow	m³/h	10.8	14.4	18	18.0	25.2	30.6	32.4	43.2	50.4	50.4	68.4	79.2	68.4	90.0	115.2	90.0	122.4	151.2	126.0	158.4	198.0	
	cfm	5.0	18.0	10.6	10.6	14.8	18.0	19.1	25.4	29.7	29.7	40.3	46.6	40.3	53.0	67.8	53.0	72.1	89.0	74.2	93.3	116.6	
Purge	%	14	10	8	15	11	9	15	11	9	15	14	11	14	11	8	14	10	8	14	11	9	
Pressure drop	mBar	100	100	100	170	170	170	170	170	170	270	270	270	170	175	180	240	240	250	180	200	190	
	psi	1.5	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5	3.9	3.9	3.9	2.5	2.5	2.6	3.5	3.5	3.6	2.6	2.9	2.8	
Filter model		PMH G 54, PMH C 54	PMH G 54, PMH C 54	PMH G 54, PMH C 54	PMH G 54, PMH C 54	PMH G 54, PMH C 54	PMH G 54, PMH C 54	PMH G 54, PMH C 54	PMH G 54, PMH C 54	PMH G 54, PMH C 54	PMH G 85, PMH C 85	PMH G 85, PMH C 85	PMH G 85, PMH C 85	PMH G 85, PMH C 85	PMH G 85, PMH C 85	PMH G 119, PMH C 119	PMH G 119, PMH C 119	PMH G 119, PMH C 119	PMH G 119, PMH C 119	PMH G 119, PMH C 119	PMH G 119, PMH C 119		
Connection	G	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	3/4"	
Weight excl. filters	kg	0.6	0.6	0.6	0.6	0.6	0.6	1.7	1.7	1.7	1.7	1.7	1.7	2.8	2.8	2.8	2.8	2.8	2.8	5.0	5.0	5.0	
	lbs	1.3	1.3	1.3	1.3	1.3	1.3	3.7	3.7	3.7	3.7	3.7	3.7	6.2	6.2	6.2	6.2	6.2	6.2	11.0	11.0	11.0	
Weight incl. filters	kg	2.9	2.9	2.9	2.9	2.9	2.9	4.0	4.0	4.0	4.2	4.2	4.2	5.3	5.3	5.7	5.7	5.7	5.7	7.9	7.9	8.9	
	lbs	6.4	6.4	6.4	6.4	6.4	6.4	8.8	8.8	8.8	9.2	9.2	9.2	11.7	11.7	12.5	12.5	12.5	12.5	17.4	17.4	20	
Dimensions	mm	A			99			99			122			122			145			145			170
	inch	3.9			3.9			4.8			4.8			5.7			5.7			6.7			
	mm	B			532			532			733			733			79			709			732
	inch	20.9			20.9			28.9			28.9			27.9			27.9			28.8			
	mm	C			757			757			959			959			934			934			957
	inch	29.8			29.8			37.8			37.8			36.8			36.8			37.7			
	mm	D			264			264			277			277			287			342			355
	inch	10.4			10.4			10.9			10.9			11.3			13.5			14.0			
	mm	E			716			716			906			906			881			936			953
	inch	28.2			28.2			35.7			35.7			34.7			36.9			37.5			
	mm	F			291			291			313			313			334			334			361
	inch	11.5			11.5			12.3			12.3			13.1			13.1			14.2			

Notes:
Add 100mm free space below the filters for easy cartridge exchange
The purge stop option adds 50mm to diameter A and height D

Kp Flow correction factor due to compressed air inlet pressure (e) 7bar							
Operating pressure	bar	4	5	6	7	8	9
Pressure correction factor	Kp	0.61	0.74	0.87	1.00	1.12	1.25

Kp Flow correction factor due to compressed air inlet pressure (e) 10bar						
Operating pressure	bar	8	9	10	11	12
Pressure correction factor	Kp	0.79	0.88	1.00	1.06	1.14

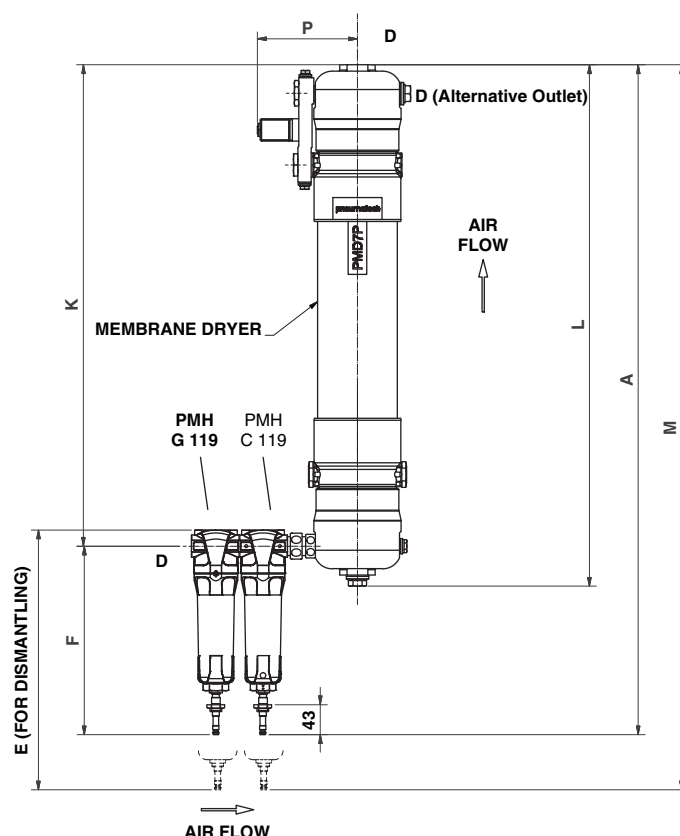
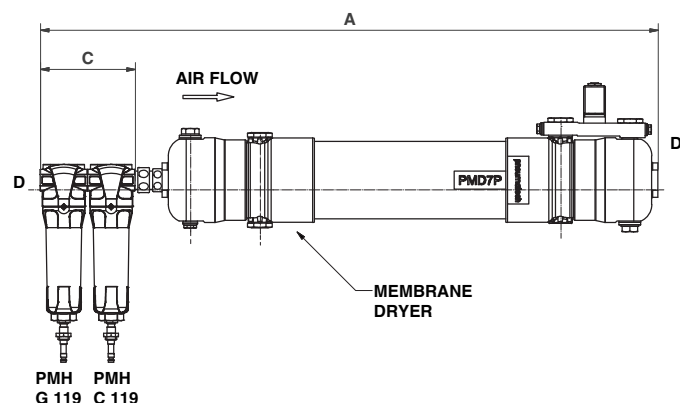
Kp Flow correction factor due to compressed air inlet pressure (e) 13bar					
Operating pressure	bar	11	12	13	14
Pressure correction factor	Kp	0.89	0.97	1.00	1.12

Please contact Pneumatech team for conditions other than the standard.

PMD 1 - 7 - Membrane dryers

General Specifications

- ▶ Standard equipment, complete scope of supply ensuring peace of mind for you
 - Purge block, fitted onto the dryer, controls the purged air
 - Two pre-filters, all interconnection components included, ensure optimal inlet air quality
 - Flexible inlet and outlet caps allow filters and dryer to be mounted in two settings for optimal use of available space
- Optional equipment
 - Purge air stop to save purge when there is no air consumption
 - Wall mounting
 - Electronic condensate drain
- ▶ Membrane Dryers
 - Pressure dew point suppressions of 15°C (27°F) to as much as 95°C (171°F) are possible. Correction factors give the correct flow
 - Compressed air inlet pressure: 4 - 14bar(g), 58 - 203 psi(g)
 - Ambient temperature range: 1-66°C/34-150°F
 - Inlet temperature range: 1-66°C/34-150°F
 - The achievable PDP of the PMD membrane dryer range is dependent on inlet dew point



Technical specifications for PMD N																						
Product → Specification ↓	Unit	PMD 1N			PMD 2N			PMD 3N			PMD 4N			PMD 5N			PMD 6N			PMD 7N		
Pressure	bar	7	10	13	7	10	13	7	10	13	7	10	13	7	10	13	7	10	13	7	10	13
	psi	102	145	190	102	145	190	102	145	190	102	145	190	102	145	190	102	145	190	102	145	190
Max. inlet flow	m³/h	5.4	7.2	9.0	12.6	16.2	19.8	21.6	28.8	36.0	32.4	43.2	54.0	46.8	64.8	82.8	61.2	79.2	100.8	93.6	126.0	162.0
	cfm	3.2	4.2	5.3	7.4	9.5	11.7	12.7	17.0	21.2	19.1	25.4	31.8	27.6	38.2	48.8	36.0	46.6	59.4	55.1	74.2	95.4
Purge	%	18	13	11	19	13	10	17	12	10	17	14	10	17	12	10	19	14	10	18	13	10
Pressure drop	m bar	80	80	80	250	240	240	160	150	150	250	240	240	180	190	190	250	240	250	250	240	250
	psi	1.2	1.2	1.2	3.6	3.5	3.5	2.3	2.2	2.2	3.6	3.5	3.5	2.6	2.8	2.8	3.6	3.5	3.6	3.6	3.5	3.6
Filter model		PMH G 54 PMH C 54	PMH G 54 PMH C 54	PMH G 54 PMH C 54	PMH G 54 PMH C 54	PMH G 54 PMH C 54	PMH G 54 PMH C 54	PMH G 54 PMH C 54	PMH G 54 PMH C 54	PMH G 54 PMH C 54	PMH G 54 PMH C 54	PMH G 54 PMH C 54	PMH G 54 PMH C 54	PMH G 85 PMH C 85	PMH G 85 PMH C 85	PMH G 85 PMH C 85	PMH G 85 PMH C 85	PMH G 85 PMH C 85	PMH G 85 PMH C 85	PMH G 119 PMH C 119	PMH G 119 PMH C 119	PMH G 119 PMH C 119
Connection	G	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Weight excl. filters	kg	0.7	0.7	0.7	0.9	0.9	0.9	2.4	2.4	2.4	2.4	2.4	2.4	3.6	3.6	3.6	3.6	3.6	3.6	6.8	6.8	6.8
	lbs	1.5	1.5	1.5	2.0	2.0	2.0	5.3	5.3	5.3	5.3	5.3	5.3	7.9	7.9	7.9	7.9	7.9	7.9	15.0	15.0	15.0
Weight incl. filters	kg	3.0	3.0	3.0	3.2	3.2	3.2	4.7	4.7	4.7	4.7	4.7	4.7	6.1	6.1	6.1	6.1	6.1	6.1	9.7	9.7	9.7
	lbs	6.6	6.6	6.6	7.0	7.0	7.0	10.3	10.3	10.3	10.3	10.3	10.3	13.4	13.4	13.4	13.4	13.4	13.4	21.3	21.3	21.3
Dimensions	mm	A	99		99		122		122		145		145		170							
	inch		3.9		3.9		4.8		4.8		5.7		5.7		6.7							
	mm	B	715		1020		1076		1076		1074		1074		1113							
	inch		28.1		40.2		42.4		42.4		42.3		42.3		43.8							
	mm	C	940		1245		1302		1302		1299		1299		1338							
	inch		37.0		49.0		51.3		51.3		51.1		51.1		52.7							
	mm	D	264		264		277		277		287		287		355							
	inch		10.4		10.4		10.9		10.9		11.3		11.3		14.0							
	mm	E	899		1204		1249		1249		1246		1246		1334							
	inch		35.4		47.4		49.2		49.2		49.1		49.1		52.5							
	mm	F	291		291		313		313		334		334		361							
	inch		11.5		11.5		12.3		12.3		13.1		13.1		14.2							

Notes: PMD 5P-7: dimensions, filters and weight of PMD 6P
Add 100mm free space below the filters for easy cartridge exchange
The purge stop option adds 50mm to diameter A and height D

Kp Flow correction factor due to compressed air inlet pressure (e) 7bar							
Operating pressure	bar	4	5	6	7	8	9
Pressure correction factor	Kp	0.62	0.75	0.88	1.00	1.13	1.26

Kp Flow correction factor due to compressed air inlet pressure (e) 10bar						
Operating pressure	bar	8	9	10	11	12
Pressure correction factor	Kp	0.84	0.94	1.00	1.12	1.22

Kp Flow correction factor due to compressed air inlet pressure (e) 13bar					
Operating pressure	bar	11	12	13	14
Pressure correction factor	Kp	0.96	1.04	1.00	1.20

Please contact Pneumatech team for conditions other than the standard.

M POU 2 - 16 - Point-of-use membrane dryers

Features and Benefits

- ▶ No power source needed
- ▶ Simple yet eco-friendly technology
 - No desiccants or refrigerants used for drying
 - No condensate drains
- ▶ Guaranteed performance
 - High water vapor selectivity thanks to non-porous membrane
 - No penetration of gases other than moisture
- ▶ Maintenance free
 - No wear and tear of any mechanical or electrical part
 - No need of replacement of any component
- ▶ Easy to transport and install
 - Built-in purging circuits
 - Easy and simple dew point adjustments thanks to the purge low control

General Specifications

- ▶ Dew point suppression achievable up to 40°C below inlet temperature
 - Note: only energy-efficient up to pressure dew point reductions of 30°C/86°F
- ▶ Operating pressure range:
0 - 8.5 barg/0-120 psig
- ▶ Operating temperature range:
-20° - 55°C / -4° - 131°F
- ▶ Ambient temperature range:
-20° - 55°C / -4° - 131°F



Applications



Dehumidified
sampling gases for
gas analysers



Laser
machining tool



Paper industry



EDM tools



Food and
beverages



Gas
generators

Pneumatech offers an easy-to-use and simple drying solution for small compressed air needs. Pneumatech's point-of-use membrane dryer does not require any power source, is compact and easy to install. This makes the dryer suitable for various smaller compressed air applications where a higher degree of dehumidification is required, such as laser machining tools, precision measuring equipment, gas analyzers and small gas generators.

The pressure dew point achieved by membrane dryers is dependent on the inlet temperature of the compressed air; but

can go up to 40°C below inlet temperature. This is achieved by a hollow-fiber membrane, where moisture can diffuse through the fine pores of the fiber bundles. When differences in moisture concentration arise between the inside and outside of a fiber membrane, moisture is transferred through the membrane surface to equalize the moisture concentration on both sides of the membrane. Part of the dry air is used as purge air in order to remove the moisture from the incoming wet air.

Technical specifications for M POU 2-16							
Product → Specification ↓	Unit		M POU 2	M POU 3	M POU 5	M POU 11	M POU 16
Nominal volume flow at dryer inlet ⁽¹⁾	l/s		0,83	1,33	2,50	5,00	7,50
	m³/hr		3	4,8	9	18	27
Supply Gas Inlet and outlet connections	Inlet (G/NPT)		1/8"	1/8"	1/4"	3/8"	3/8"
	Outlet (G/NPT)		1/4"	1/4"	1/4"	1/4"	1/4"
Weight	kg		0,27	0,27	0,34	0,68	0,72
	lbs		0,59	0,6	0,76	1,5	1,59
Dimensions	Width	mm	61	61	70	100	100
		inch	2,4	2,4	2,8	3,9	3,9
	Height	mm	112	112	153	200	200
		inch	4,4	4,4	6,0	7,9	7,9
	Length	mm	31	31	40	50	50
		inch	1,2	1,2	1,6	2,0	2,0

1. Flow is measured at Reference Conditions: 1 bara and 20°C at operating pressure of 7 barg, inlet temperature 35°C & 40°C dew point reduction on inlet temperature..